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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
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10/661,967

09/12/2003

Steve Klotz

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09/29/2008

WORKMAN NYDEGGER  
60 EAST SOUTH TEMPLE  
1000 EAGLE GATE TOWER  
SALT LAKE CITY, UT 84111

EXAMINER

CHEA, PHILIP J

ART UNIT

PAPER NUMBER

2153

MAIL DATE

DELIVERY MODE

09/29/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/661,967             | KLOTZ ET AL.        |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | PHILIP J. CHEA         | 2153                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9, 22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 22 and 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/15/08</u> .   | 6) <input type="checkbox"/> Other: _____                          |

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### **DETAILED ACTION**

This Office Action is in response to an Amendment filed July 15, 2008. Claims 1-9,22-23 are currently pending, of which claims 22-23 are new. Any rejection not set forth below has been overcome by the current Amendment.

#### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on July 15, 2008 was filed after the mailing date of the Final Rejection on April 15, 2008. The submissions are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2,4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (US 5,850,388), herein referred to as Anderson, and further in view of Hamilton et al. (US 6,975,963), herein referred to as Hamilton.

As per claim 1, Anderson discloses a method for analyzing a network, as claimed, comprising:  
capturing a data trace representative of a network operation (see column 10, lines 50-65, where the a data trace is performed in order to calculate network operation parameters such as, traffic statistics and error statistics);

determining the network topology from the data trace (see column 11, lines 57-67, where the topology is determined by monitoring and recording stations that are in the network);

dividing a sample duration window of the trace into a first predetermined number of intervals (see Fig. 19A, where the trace is divided into 4 second intervals);

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calculating an initial state for each device in the network topology for at least one of the first predetermined number of intervals (see column 13, lines 52-67, *where initial states are calculated (i.e. a "Start" step where frames are sent through the network by devices)* and see column 14, lines 1-4 *for the predetermined sampling period interval of one second*) based upon events that occur outside the sample duration window (see column 28, lines 10-17, *where Protocol Distribution (Cumulative) can be initialized to display intervals based upon events that occur outside the sample duration window and events occur outside the sample duration window because it includes event data collected since the monitoring session began versus a user-defined sampling period*); and

displaying network analysis information based upon the initial states and the network topology to the user (see Figs. 19A-19C, *where the analysis information collected from the network trace is displayed for the user*).

Although the system disclosed by Anderson shows substantial features of the claimed invention (discussed above), it fails to disclose display average values of network analysis information and adjusting the sample duration window to display individual values of the network analysis information.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Anderson, as evidenced by Hamilton.

In an analogous art, Hamilton discloses a method for reporting data network monitoring information by accessing performance metric values for a network component and generating a trace of graph data points for the performance metric values (see Abstract). Hamilton further discloses displaying average values of network analysis information (see column 14, lines 39-44, *describing the display of average histogram points related to the analysis information*) and adjusting the sample duration window to display individual values of the network analysis information (see column 5, lines 29-36 and column 15, lines 31-38, *describing how individual values may be displayed rather than just the average*).

Given the teaching of Hamilton, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Anderson by employing the display of average values and adjusting the sample to display individual values, such as disclosed by Hamilton, in order to retain historical data without losing or hiding high and low value that can be caused by value averaging.

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As per claim 2, Anderson further discloses allowing a user to adjust a sample duration window (see column 13, lines 29-37, where sampling period is considered sampling duration window).

As per claim 4, Anderson further discloses that adjusting the sample duration window comprises adjusting the granularity of a displayed sample analysis (see Fig. 19A and a column 13, lines 32-36, where network granularity from a sample size of 4 seconds can be changed to a finer granularity of a sample size of 1 second).

As per claim 5, Anderson further discloses storing a snapshot of the network analysis information (see Figs. 19A-19C, showing a stored snapshot of the network).

4. Claims 3,6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson-Hamilton as applied to claim 2 above, and further in view of Garg et al. (US 6,327,677), herein referred to as Garg.

As per claim 3, Anderson does not expressly disclose dividing the sample duration window into a second predetermined number of equal intervals, determining a calculated initial state that immediately precedes a first interval in the sample duration window; calculating a valid starting state for each device on the network for the first interval in the sample duration based upon the determined preceding state; and calculating initial states for each device on the network for each of the second predetermined intervals based upon the valid starting state and the data trace.

However, Anderson discloses dividing a duration of the trace into a first predetermined number of equal intervals (see Fig. 19A, where the trace is divided into 4 second intervals) and that a sample duration window can be adjusted (column 13, lines 32-36). It would have been obvious to one of ordinary skill in the art to adjust a sample duration from 4 seconds as pictured in Fig. 19A, to a more refined sample window of 1 second as disclosed in column 13, lines 32-36 in order to extract more details about the network. Furthermore, Garg discloses dividing the sample duration window into a second predetermined number of equal intervals (see Fig. 4, describing how a sample duration window is divided into a second predetermined number of equals from five minute samples to one hour samples).

Therefore, after adjusting the sample duration window, Garg implies determining a calculated initial state

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that immediately precedes a first interval in the sample duration window (i.e. determining the starting point of the data trace); calculating a valid starting state for each device on the network for the first interval in the sample duration based upon the determined preceding state (i.e. calculating the starting state of the devices in relation to the new sample duration window); and calculating initial states for each device on the network for each of the second predetermined intervals based upon the valid starting state and the data trace (i.e. calculating initial states for each device on the network in relation to the new sample duration window).

As per claim 6, Anderson further discloses storing a snapshot of the calculated initial states for each device over the second predetermined intervals (i.e. Figs. 19A-19C would show snapshots for each device based on the new sample duration window).

As per claim 7, Anderson further discloses generating errors and metrics representative of the sample duration window (see column 13, lines 38-50).

As per claim 8, Anderson further discloses allowing a user to select the sample window (see column 13, lines 32-36) and the predetermined number of intervals (see column 5, lines 7-10).

As per claim 9, Anderson further discloses allowing the user to select a plurality of parameters to be displayed in the sample window (see Figs. 19A-19C, showing different parameters displayed such as, Network Utilization, Network Frame Rate, and Frame Size Distribution).

5. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson-Hamilton as applied to claim 1 above, and further in view of Gvozdanovic (US 6,600,720).

Although the system disclosed by Anderson-Hamilton shows substantial features of the claimed invention (discussed above), it fails to disclose that the network analysis information includes tenancy metrics describing a rate at which a device in the network is capable of bursting data.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Anderson-Hamilton, as evidenced by Gvozdanovic.

In an analogous art, Gvozdanovic discloses monitoring current traffic output from a source and comparing the monitored current traffic with capacity on the link and providing a control signal for varying

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the operational state of the traffic source according to the comparison (see Abstract). Gvozdanovic further discloses the need to monitor applications that are capable of producing short bursts of data at a short term rate in excess of a peak cell rate (see column 6, lines 8-10, *where PCR is peak cell rate*).

Given the teaching of Gvozdanovic, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Anderson-Hamilton by employing network analysis information describing a rate at which a device in the network is capable of bursting data, such as disclosed by Gvozdanovic, in order to determine if traffic shaping is required on an ATM to support the data bursts.

6. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (US 5,850,388), herein referred to as Anderson, and further in view of Voigt et al. (US 5,623,598), herein referred to as Voigt, and further in view of Hamilton et al. (US 6,975,963), herein referred to as Hamilton.

Anderson discloses a method for analyzing a network, as claimed, comprising:

capturing a data trace representative of a network operation (see column 10, lines 50-65, where the a data trace is performed in order to calculate network operation parameters such as, traffic statistics and error statistics);

determining the network topology from the data trace (see column 11, lines 57-67, where the topology is determined by monitoring and recording stations that are in the network);

dividing a sample duration window of the trace into a first predetermined number of intervals (see Fig. 19A, where the trace is divided into 4 second intervals);

calculating an initial state for each device in the network topology for at least one of the first predetermined number of intervals (see column 13, lines 52-67, *where initial states are calculated (i.e. a "Start" step where frames are sent through the network by devices)* and see column 14, lines 1-4 *for the predetermined sampling period interval of one second*) based upon events that occur outside the sample duration window (see column 28, lines 10-17, *where Protocol Distribution (Cumulative) can be initialized to display intervals based upon events that occur outside the sample duration window and events occur*

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*outside the sample duration window because it includes event data collected since the monitoring session began versus a user-defined sampling period) and*

displaying metrics based upon the initial states and the network topology to the user (see Figs. 19A-19C, *where the analysis information collected from the network trace is displayed for the user*).

Although the system disclosed by Anderson shows substantial features of the claimed invention (discussed above), it fails to disclose displaying exchange completion time (ECT) metrics.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Anderson, as evidenced by Voigt.

In an analogous art, Voigt discloses a method for providing for identifying areas for performance improvement in a data storage system by sampling a performance metric during operation of a data storage system and presenting to a user a performance history that is indicative of how the data storage system is performing over a period of time (see Abstract). Voigt further discloses that the performance metrics include the total number of blocks read by the host, the total number of blocks written to the host, and the amount of time during which commands were outstanding from the host (see column 5, lines 1-4). Since Applicants Specification on page 64, paragraph 126, lines 2-4, show that the completion time is a time a command is issued to the first data frame returning in response to the command, Voigt's time metric of the amount of time during which commands were outstanding from the host is considered the (ECT).

Given the teaching of Voigt, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Anderson by employing ECT metrics, such as disclosed by Voigt, in order to monitor or anticipate situations which adversely impact performance.

Although the system disclosed by Anderson-Voigt shows substantial features of the claimed invention (discussed above), it fails to disclose adjusting the sample duration window to zoom in to the displayed ECT metrics at a point immediately prior to a spike in the ECT metrics.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Anderson-Voigt, as evidenced by Hamilton.



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In an analogous art, Hamilton discloses a method for reporting data network monitoring information by accessing performance metric values for a network component and generating a trace of graph data points for the performance metric values (see Abstract). Hamilton further discloses adjusting the sample duration window to display individual values of the network analysis information (see column 5, lines 29-36 and column 15, lines 31-38, *describing how high and low individual values may be displayed*). Since a spike is considered a high value and a range selector can be toggled, it is obvious that the range can be selected so that the window displays ECT metrics just before the high point.

Given the teaching of Hamilton, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Anderson-Voigt by adjusting the sample to display individual values, such as disclosed by Hamilton, in order to retain historical data without losing or hiding high and low value that can be caused by value averaging.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-9,22-23 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHILIP J. CHEA whose telephone number is (571)272-3951. The examiner can normally be reached on M-F 6:30-4:00 (1st Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Philip J Chea  
Examiner  
Art Unit 2153

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Examiner, Art Unit 2153